



# 23rd Annual Crane Symposium

21-23 June 2016 - Indianapolis, Ind., USA - Indianapolis Marriott Downtown

## About the Course

The symposium will deliver practical information and experiences from crane maintenance personnel, crane manufacturers, equipment manufacturers and engineering consultants who strive to make electric overhead traveling (EOT) cranes and their runways the safest, most reliable, and durable machinery and equipment in the industry. This two-day program will include presentations focused on safe work practices and ergonomics, electrical, mechanical, and structural maintenance techniques, crane inspection technologies and best practices in EOT crane modernizations. As part of the Crane Symposium program, the Crane Innovator of the Year Award winner will be honored, recognizing the individual who has brought forth the latest in technology, or increased efficiencies in operational and maintenance practices for the continuous improvement of heavy industrial cranes.

## Registration Fees

Registration fee after 10 May 2016: Member US\$895, Non-member US\$1,110. Registration includes Tuesday reception; continental breakfasts, lunches and continuous breaks Wednesday and Thursday; a dinner Wednesday evening; and a course workbook or flash drive including presentations.

## Sponsored By

AIST's Cranes Technology Committee.

## Event Sponsors



## Tuesday, 21 June 2016

4 p.m.  
Registration

5 p.m.  
Reception

## Wednesday, 22 June 2016

7 a.m.  
Registration and Continental Breakfast

8 a.m.  
**Introductions and Opening Remarks**

8:15 a.m.  
**Remaining Lifetime Prediction of Structures and Components**  
Stijn Droessaert, ArcelorMittal Gent

This presentation will discuss on-line remaining lifetime calculation of structures of crane girders, overhead cranes and components on overhead cranes – and performing maintenance based on these results.

8:45 a.m.  
**How to Find Bearing Failures on Crane Wheels Before Total Failure**  
Kris Deckers and Kurt Sadones, Allied Reliability Group  
Detecting of premature bearing failures on crane wheels with vibration measurements.

9:15 a.m.  
**Crane Runway Structures**  
Timothy Bickel, Computerized Structural Design Inc.  
Overhead cranes and the supporting crane runway structures are two parts of the same system. Each part is designed separately using completely different design criteria, but are they compatible? An understanding of the behavior of crane runway structures is beneficial for dealing with some of the operational and maintenance issues associated with overhead cranes. This presentation will explore the ways that cranes and runways interact and the effects that they can have on each other.

9:45 a.m.  
Break

10 a.m.  
**Automated Ingot Yard Gantry Crane**

Micah ZavadiL, SES Engineering  
Troubleshooting issues faced in the process of installing an outdoor semi-automated gantry crane will be discussed. Three to four issues will be discussed along with the solutions.

10:30 a.m.  
**Case Study of Crane Commissioning Problems**  
Jose Geraldo de Araujo Silva, Metalcon

11 a.m.  
**Camera Systems on Cranes: It's About Time!**  
Robert Hruskoci, Advanced Industrial Marketing Inc.  
This presentation will discuss industrial camera systems specifications and what it takes for cameras to survive on steel mill cranes. Successful installations will also be presented, specifically how the cameras were used to increase operator efficiency.

11:30 a.m.  
**Increased Operational Safety Through Lifting Magnets**  
Alejandro Hernandez, SGM Magnetics Corp.  
Material handling with magnetic devices allows operations to be done efficiently and safely, thus avoiding the operator's exposure and direct contact with steel. Reliable technologies and safety devices are integrated into the system to guarantee absolute safety on every lift.

Noon  
Lunch

1:15 p.m.

### **Fall Protection/Cab Egress**

Ross Muhleman, Simmers Crane Design & Services Co.

The presentation will focus on fall protection as it pertains to cranes for both maintenance purposes as well as access and egress for cab-operated cranes.

1:45 p.m.

### **Don't Let Your Cranes Drop Ladles of Hot Metal**

Charles Totten, T&M Equipment Co. and Nelson Baker, Morgan Engineering Systems Inc.

Ladles of hot metal are very dangerous. There should never be an accident involving ladles of hot metal, but unfortunately, this type of accident does occur. The causes are maintenance, safety and training issues.

2:15 p.m.

Break

2:30 p.m.

### **Technology-Based Crane Monitoring and Diagnostics**

Allen Bailey, IVC Technologies

3 p.m.

### **Big Data on Crane Runway Analysis and Repair**

Michael Falk, Falk PLI

What if you could use big data to improve crane performance?

3:30 p.m.

### **Electrical Control Rooms or E Room**

Randy Cantrell, Konecranes Inc.

A detailed discussion about the improvements and features available for a safer and more maintenance-friendly meltshop crane.

4 p.m.

### **Panel Discussion**

5:30 p.m.

Dinner at The NCAA Hall of Champions

## Thursday, 23 June 2016

7 a.m.

Continental Breakfast

8 a.m.

### **Introduction and Opening Remarks**

8:15 a.m.

### **Rope Drum and Sheave Wheel Fundamentals**

William Schierenbeck, Xtek Inc.

Overview of rope drum and sheave wheel wear and practices that can be implemented to resolve these issues.

8:45 a.m.

### **Safety For EOT Crane Control**

Jeremy Pearson, Laird

9:15 a.m.

### **Custom Engineered Solutions Crane Applications**

David Persichini, Control Chief Corp.

9:45 a.m.

Break

10 a.m.

### **Eliminating Crane "Float"**

Tom Anderson, PSI Technics Ltd.

10:30 a.m.

### **Managing Big Crane Data – What Is It Telling Us and How Do You Use It?**

Daniel Klasel, Hoist & Crane Service Group

For more information, visit

[AIST.org/technologytraining](http://AIST.org/technologytraining)

11 a.m.

### **Modernizing DC Cranes**

Bob Schmitt and Casey Cummins, Magnetek Inc.

When modernizing a DC crane, there are two options: upgrade to modern DC digital drives while retaining DC power, or convert to AC power with AC digital drives. This presentation provides a clear understanding of the considerations involved with each approach. It also explores the improvements resulting from modernizing crane controls, including cost savings, improved reliability, performance improvement, decreased maintenance and energy efficiency.

11:30 a.m.

### **Crane Innovator of the Year Award:**

#### **Installation of Computers in Steelmaking DC Crane Cabs for Data Collection and Improved Communication**

Brad Hebert and Ray Hofecker, ArcelorMittal Burns Harbor – Steel Producing

Inverters and touch-screen computers have been installed in each of ArcelorMittal Burns Harbor's cab-operated cranes during the past four years. The computers are linked wirelessly to networked programmable logic controllers and display critical data related to hoist weights, positions and an accurate production schedule to the crane operator. Computers also allow operators to enter pre-shift inspections via a virtual keyboard. Inspections are then distributed electronically to management personnel so that problems identified can be resolved.

Noon

Lunch

1:15 p.m.

### **Wire Rope Longevity**

Amber Dalley

Wire ropes are integral to crane systems. Consequences of failure extend beyond purchase cost to include safety, damage to equipment and goods, and lost production. Standards and references are discussed, followed by case studies of unusual wire rope failures in heavy industry. Examples include defectively manufactured cable, contact with a power cable, stress corrosion cracking in stainless steel cable, and complete internal failure of a steel core with no external damage to surface strands.

2:15 p.m.

Break

1:45 p.m.

### **Ground-Based Safety With Automated Overhead Cranes**

Jared Gilpin, Nucor Steel–Berkeley

This presentation will cover ground safety considerations and lessons learned when designing safety zones for personnel and equipment protection during automated overhead crane operation.

2:30 p.m.

### **Meltshop Crane Reliability Practices**

Thomas Steveley, Nucor Steel Gallatin

This presentation will focus on maintenance and reliability practices for hot metal cranes over a 10-year period at Nucor Steel Gallatin. Through the implementation of world-class maintenance methodology and industry-leading practices, the meltshop's cranes have evolved into some of the most reliable assets in the plant.

3 p.m.

### **Key Aspects for the Implementation of Crane Automation Systems in the Metals Industry**

Edgardo La Bruna, Janus Automation LLC

The presentation will include information about techniques and recommendations for the successful implementation of state-of-the-art and reliable crane automation systems, the presentation will include also reliable anti-collision and crane positioning systems, wireless networks, and interactions between cranes with automated guided vehicles.

3:30 p.m.

### **Overhead Crane History and Timeline**

Thomas Berringer, Gantrex Inc.

4 p.m.

### **Panel Discussion**

4:30 p.m.

Conference Adjourn

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